

NIOC 7772  
PATENT

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A portable satellite uplink for use in connection with a webcasting system for capturing live media content at a first location and webcasting the live media content to a second location, said webcasting system including a satellite communication link having a transmission propagation delay, a communication satellite, an encoder encoding the live media content into a first digital webcast format at the first location, said first digital webcast format being sensitive to the transmission propagation delay and requiring at least one transmission acknowledgement signal, the portable satellite uplink comprising:

a control processor receiving the live media content in the first digital webcast format and providing the at least one transmission acknowledgement signal to the encoder, said control processor converting the live media content to a second digital webcast format having a characteristic such that the second digital webcast format is insensitive to the transmission propagation delay;

a satellite communication signal converter receiving the live media content in the second digital webcast format, said satellite communications signal converter converting the live media content received in the second

NIOC 7772  
PATENT

digital webcast format to a satellite transmission signal compatible with the satellite communication link; and

a satellite uplink transceiver receiving the satellite transmission signal and transmitting the satellite transmission signal to the satellite over the satellite communication link wherein the satellite downlinks the satellite transmission signal for reception on the earth at the second location.

2. (currently amended) The portable satellite uplink of claim 1 wherein the first digital webcast format utilizes a TCP protocol having a first propagation delay tolerance less than the propagation delay of the satellite communication link and wherein the satellite uplink acts as a TCP endpoint such that the second digital webcast format is insensitive to the propagation delay.

3. (currently amended) The portable satellite uplink of claim 2 wherein the second digital webcast format comprises a modified TCP protocol having a second propagation delay tolerance in excess of the propagation delay.

4. (currently amended) A webcasting system for webcasting live media content over a satellite communication link having a transmission propagation delay and including a communication satellite, said webcasting system comprising:

an encoder at a first location encoding said live media content into a first digital webcast signal having a first digital webcast format that is sensitive to the

NIOC 7772  
PATENT

transmission propagation delay, said encoder requiring receipt of at least one transmission acknowledgment signal; and

an portable uplink router at the first location comprising:

a control processor receiving the first digital webcast signal and providing the at least one transmission acknowledgment signal to the encoder, said control processor converting the first digital webcast signal to a second digital webcast signal being insensitive to the transmission propagation delay;

a satellite communications signal converter receiving the second digital webcast signal, said satellite communications signal converter converting the second digital webcast signal into a satellite transmission signal; and

a satellite uplink transceiver receiving the satellite transmission signal and transmitting the satellite transmission signal to the satellite such that the satellite downlinks the satellite transmission signal for reception on the earth at a second location different from the first location.

5. (original) The webcasting system of claim 4 further comprising:

an earth station in electronic communication with the satellite, said earth station receiving the satellite transmission signal and converting the satellite transmission signal in to a third digital webcast signal having the first digital webcast format; and

NIOC 7772  
PATENT

a router receiving the third digital webcast signal and routing the third digital webcast signal to a wide area network.

6. (currently amended) A method of webcasting live media content over a satellite communication link having a transmission propagation delay and including a communication satellite, said method comprising:

encoding said live media content at a first location into a first digital webcast signal having a first digital webcast format that is sensitive to the transmission propagation delay, said first digital webcast format requiring the receipt of at least one transmission acknowledgment signal;

uplinking the encoded media content from the first location across the satellite communication link by an uplink method comprising:

receiving the first digital webcast signal;

providing the at least one transmission acknowledgment signal required by the first digital webcast format;

converting the first digital webcast signal to a second digital webcast signal being insensitive to the transmission propagation delay of the satellite communication link;

converting the second digital webcast signal into a satellite transmission signal;

transmitting the satellite transmission signal from the first location to the communication satellite; and

downlinking the satellite transmission signal for reception on the earth at a second location different from the first location.

NIOC 7772  
PATENT

7. (original) One or more computer-readable media having computer-executable instructions for performing the method of claim 6.

8. (new) The portable satellite uplink of claim 1 wherein the satellite transceiver further comprises:

an antenna controller responsive to a global positioning satellite system and an electronic compass for estimating a direction to a satellite and providing a corresponding coordinate signal representative thereof, said antenna controller further being configured for, after estimating the direction, measuring a signal strength of the communications link established with the satellite and modulating the coordinate signal to optimize reception of the transmission signal at the satellite; and

an antenna for directing the satellite transmission signal according to the modulated coordinate signal.

9. (new) The portable satellite uplink of claim 8 wherein the antenna controller modulates the coordinate signal such that the antenna sweeps a range of directions, identifies the directions of a plurality of satellites, and estimates the direction to a satellite to be the direction of the satellite having the best measured signal strength.

10. (new) The portable satellite uplink of claim 1 wherein the portable satellite uplink is responsive to a teleport for setting a transmitter center frequency and data rate, said center frequency and data rate defining a desired bandwidth for transmissions to a particular

NIOC 7772  
PATENT

satellite to manage transmissions from a plurality of portable satellite uplinks to one or more satellites.

11. (new) The portable satellite uplink of claim 1 wherein the portable satellite uplink is responsive to a teleport for adjusting the power with which the satellite transmission signal is transmitted.

12. (new) The webcasting system of claim 4 wherein the webcasting system further comprises:

an antenna controller responsive to a global positioning satellite system and an electronic compass for estimating a direction to a satellite and providing a corresponding coordinate signal representative thereof, said antenna controller further being configured for, after estimating the direction, measuring a signal strength of the communications link established with the satellite and modulating the coordinate signal to optimize reception of the transmission signal at the satellite; and

wherein the satellite transceiver further comprises an antenna for directing the satellite transmission signal according to the modulated coordinate signal.

13. (new) The webcasting system of claim 12 wherein the antenna controller modulates the coordinate signal to cause the antenna to sweep a range of directions, identifies the directions of a plurality of satellites, and estimates the direction to a satellite to be the direction of the satellite having the best measured signal strength.

NIOC 7772  
PATENT

14. (new) The webcasting system of claim 4 wherein the webcasting system is responsive to a teleport for setting a transmitter center frequency and data rate, said center frequency and data rate defining a desired bandwidth for transmissions to a particular satellite to manage transmissions from a plurality of portable satellite uplinks to one or more satellites.

15. (new) The webcasting system of claim 4 wherein the webcasting system is responsive to a teleport for adjusting the power with which the satellite transmission signal is transmitted.

16. (new) The method of claim 6 further comprising:  
receiving positional data from a global positioning satellite system and an electronic compass;  
estimating a direction of a satellite based on the received positional data;  
providing a coordinate signal corresponding to the estimated direction of the satellite;  
receiving the coordinate signal at an antenna, wherein the antenna directs the transmission signal according to the received coordinate signal;  
establishing the communications link between the portable satellite uplink and the communications satellite;  
measuring a signal strength of the communications link; and  
optimizing reception of the transmission signal at the satellite.

NIOC 7772  
PATENT

17. (new) The method of claim 16 wherein said estimating comprises:

sweeping the antenna through a range of directions;  
acquiring the directions of a plurality of satellites;  
measuring the signal strength of each of the plurality of satellites; and

selecting the satellite having the best measured signal strength.

18. (new) The method of claim 6 further comprising setting, in response to input from a teleport, a transmitter center frequency and data rate, said center frequency and data rate comprising a desired bandwidth for transmissions to a particular satellite to manage transmissions from a plurality of portable satellite uplinks to one or more satellites.

19. (new) The method of claim 6 further comprising adjusting the power with which the satellite transmission signal is transmitted in response to input from a teleport.

20. (new) The method of claim 6 further comprising:  
receiving the satellite transmission signal on earth;  
converting the satellite transmission signal to the first digital webcast format;

providing a third digital webcast signal to at least one user, wherein the third digital webcast signal has the first digital webcast format;

decoding the third digital webcast signal; and  
rendering the live media content to the user from the decoded third digital webcast signal.